

ABSTRACT OF THE DISCLOSURE

An image encoder divides an input image frame into a plurality of blocks, detects a motion vector of each block, arranges the blocks into one or more groups based on the motion vector, and calculates the first weighting coefficient based on the number of 5 blocks included in each group. The image encoder arranges the plurality of blocks into one or more groups of blocks based on DC components of brightness and color information of each block, and calculates the second weighting coefficient based on the distance between the center of each block and the center of the input image frame. The image encoder determines a quantization step width based on one or two of the first and 10 second weighting coefficients, using the detected motion vector. Further, the image encoder quantizes each of the plurality of blocks by the determined quantization step width so as to encode the input image frame.